

SIEMENS

LITHOSTAR Multiline

SP

Planning Guide

System

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English

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Document revision level

The document corresponds to the version/revision level effective at the time of system delivery.

Revisions to hardcopy documentation are not automatically distributed.

Please contact your local Siemens office to order current revision levels.

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General notes

- With distribution of these revision level, all preceding planning guides, Speed - Infos (PG's) and drafts lose their validity.
- All layouts issued by the Planning Departments must bear a note referring to the installation and delivery conditions of Siemens Medical Engineering. The installation and delivery conditions must be submitted with the layouts.
- Unless otherwise specified, all dimensions are indicated in "mm".



- The symbol indicates a change (see revision status).



- Orientation points
Points specific to system components to which reference is made when positioning system components to each other or in the room.
The isocenter of a radiographic system is always illustrated as the orientation point.

- Fixpoints
Clearly marked points on system components, installation ceiling, walls or floor on which cable outlets are located.
Illustration in the drawings: octagon with letter/number-combination.
The cable lengths specify the maximum fixpoint distances and thus the maximum distances between the individual system components.

- Room height
The room height is the distance measured from the top surface of the floor to the bottom surface of the ceiling structural elements (Unistrut rails) (bottom surface of drop ceiling).

- Room lighting
According to DIN 68 68-57 (international standard in preparation), the lighting in rooms in which image playback devices (monitors) are used for diagnosis, the following requirements must be met:

adjustable, no anti-glare screen, reproducible adjustment of the lighting (e. g. dimmer with scala),

no glare or reflection from windows, lights and light boxes in the standard working position of the monitors.

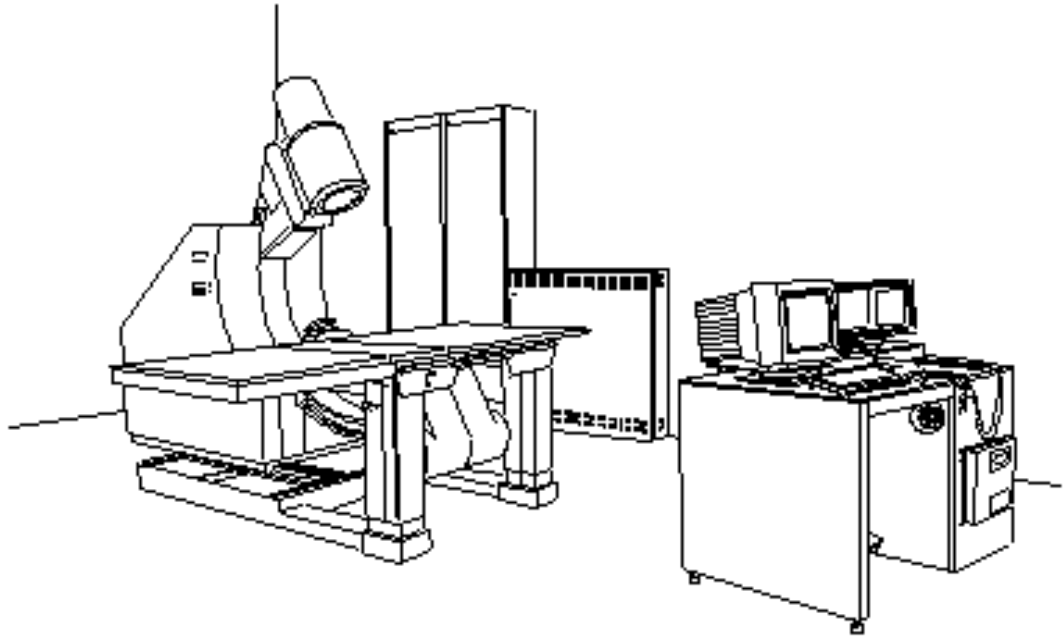
Hotline + 49 (9191) 18 - 8080

Safety

- The provisions of the relevant fire safety regulations must be observed for the premises.
- The system has been developed according to EN 60601 - 1.
- Minimum dimensions (e. g. room heights, safety distances) indicated in the planning guides are marked "min."
- Basic strength against electromagnetic sources of interference.
Result of lightning discharges.
The protection targets of the different lightning protection areas up to the unit connection are also specified in the IEC 1024, DIN 48810, VDE 0675 and in the DEMVT recommendations.

System Configuration

(Basic layout), LITHOSTAR Multiline with POLYDOROS LX



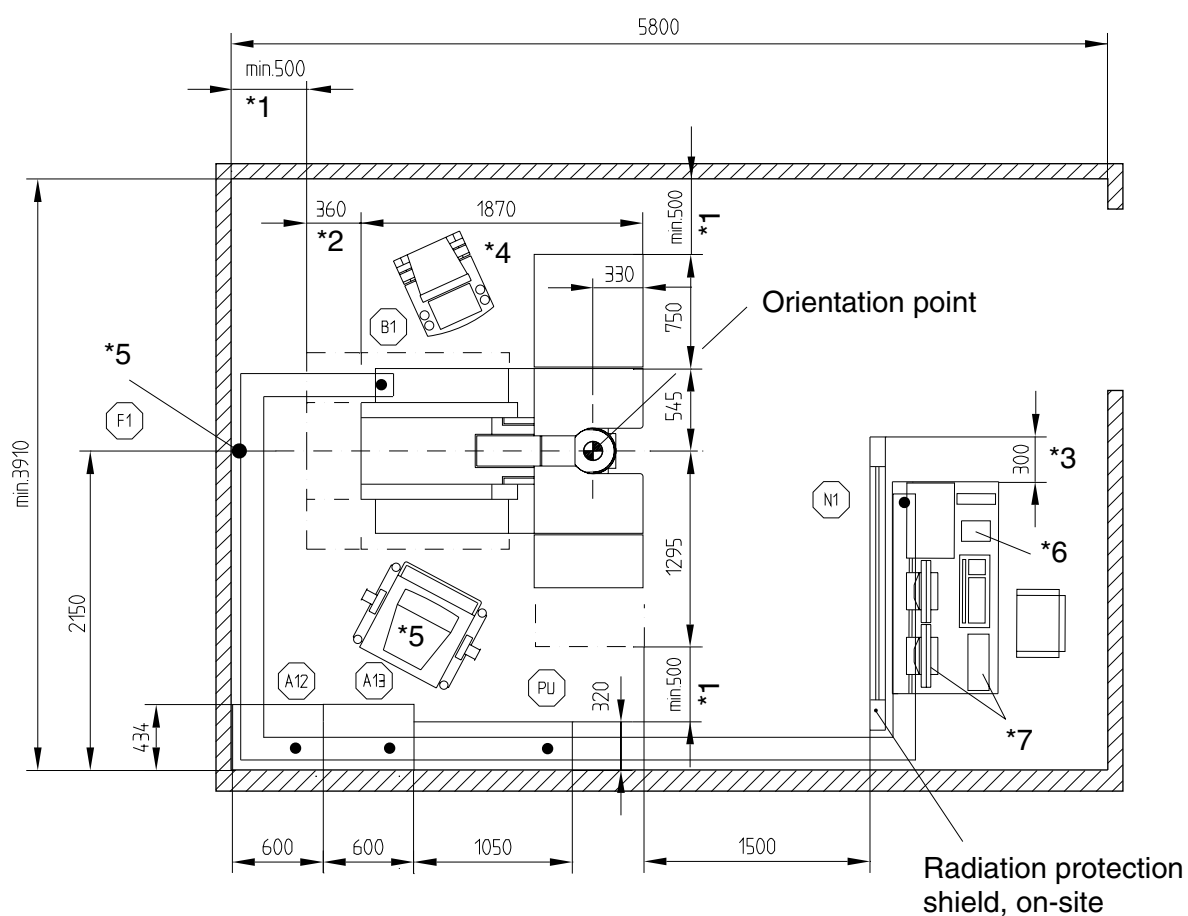
The following options are not shown in the basic layout:

Respiratory ECG triggering
Ultrasound unit
Monitor cart
Diamantor
DICOM

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Wall Distances and Room Height, Version I

LITHOSTAR Multiline with POLYDOROS LX



1 : 50

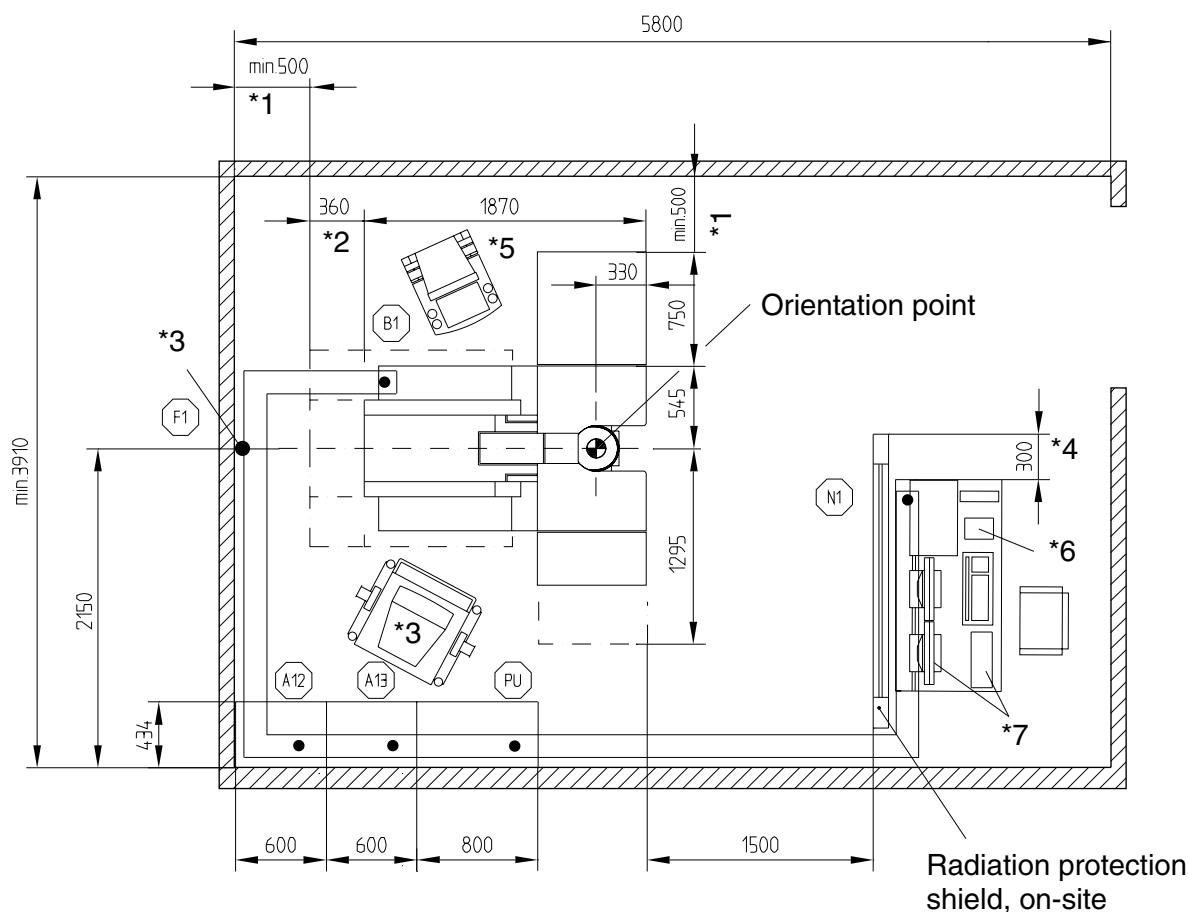
- *1 Safety distance according to the equipment safety law
- *2 System excursion
- *3 Only in countries with UL regulations apply
- *4 Option: Ultrasound unit
- *5 Option: 3rd monitor with monitor trolley
Cable feed max. 5 cm above floor.
Cable outlet, item no. 14 76 241 R 4189 also required
- *6 Option: Diamentor
- *7 Option: DICOM

Room size

	Area	Length	Width	Height
Technically possible minimum examination room size	22.70 m ²	5.80 m	3.90 m	min. 2.40 m

Wall Distances and Room Height, Version II

LITHOSTAR Multiline with POLYDOROS SX



1 : 50

- *1 Safety distance according to the equipment safety law
- *2 System excursion
- *3 3rd monitor with monitor trolley
Cable feed max. 5 cm above floor.
Cable outlet, item no. 14 76 241 R 4189 also required
- *4 Only in countries with UL regulations apply
- *5 Option: Ultrasound unit
- *6 Option: Diammentor
- *7 Option: DICOM

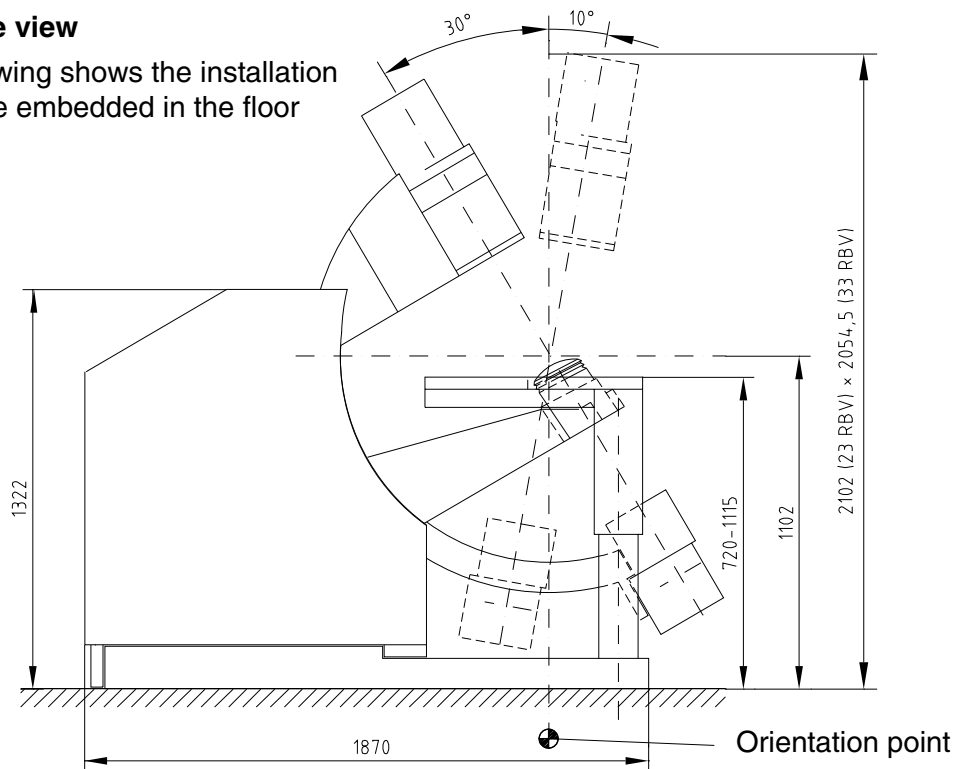
Room size

	Area	Length	Width	Height
Technically possible minimum examination room size	22.70 m ²	5.80 m	3.90 m	min. 2.40 m

Dimensions: LITHOSTAR Multiline

Side view

Drawing shows the installation plate embedded in the floor

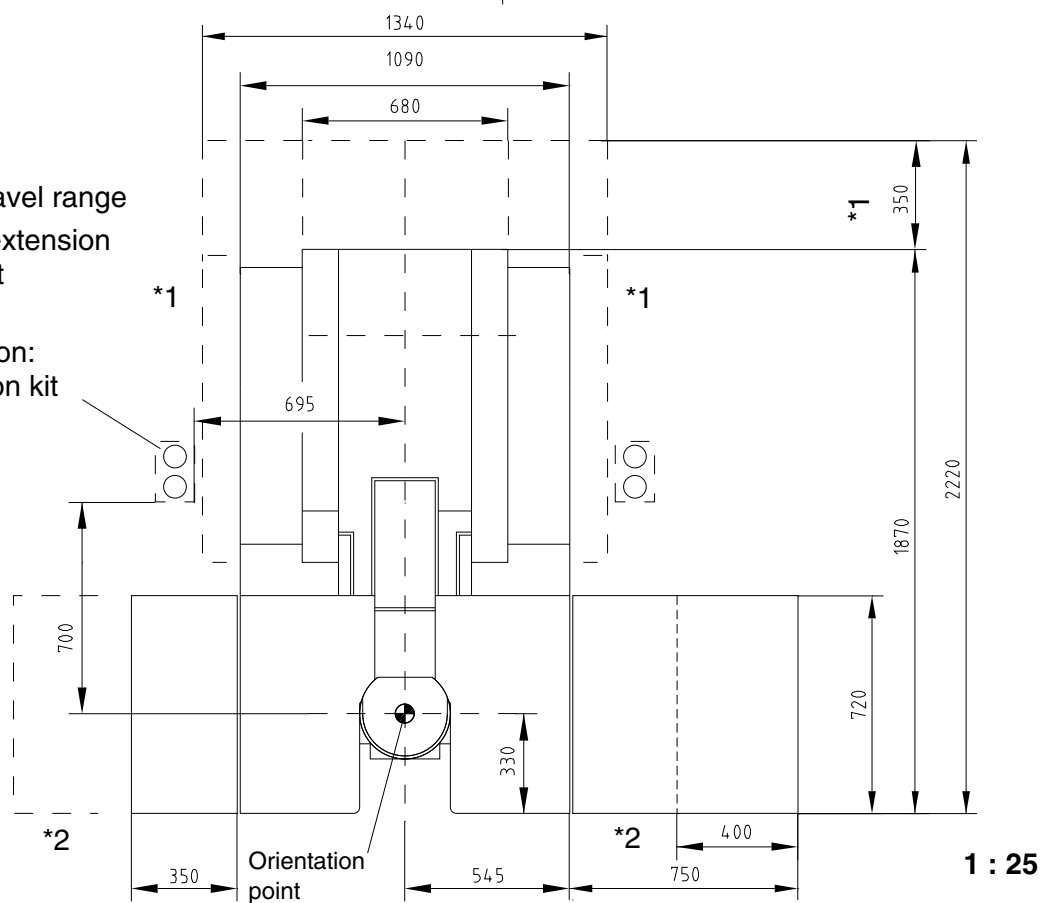


Top view

*1 System travel range

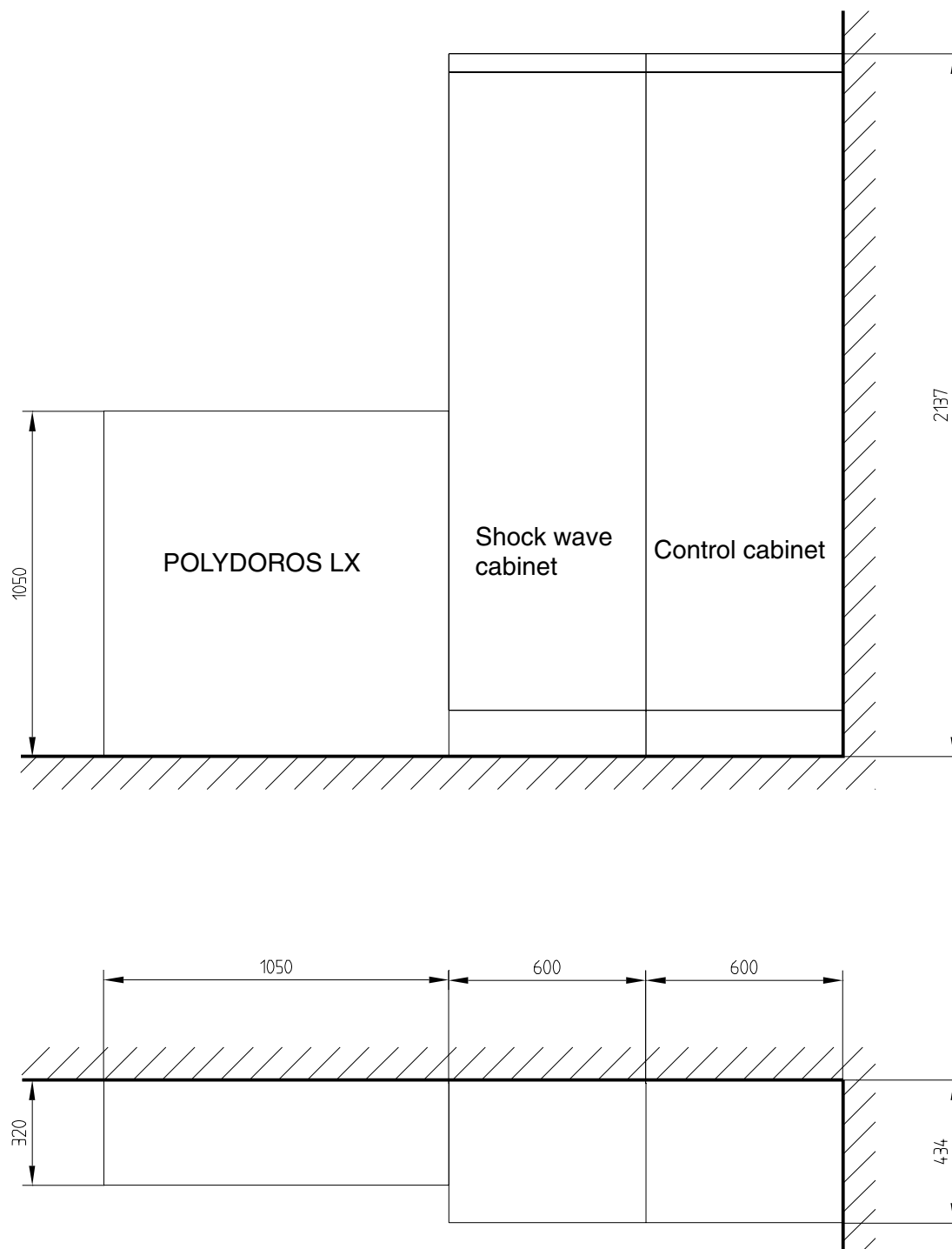
*2 Tabletop extension right or left

Option:
preferred position:
water connection kit



1 : 25

Dimensions: UMR Cabinets with POLYDOROS LX

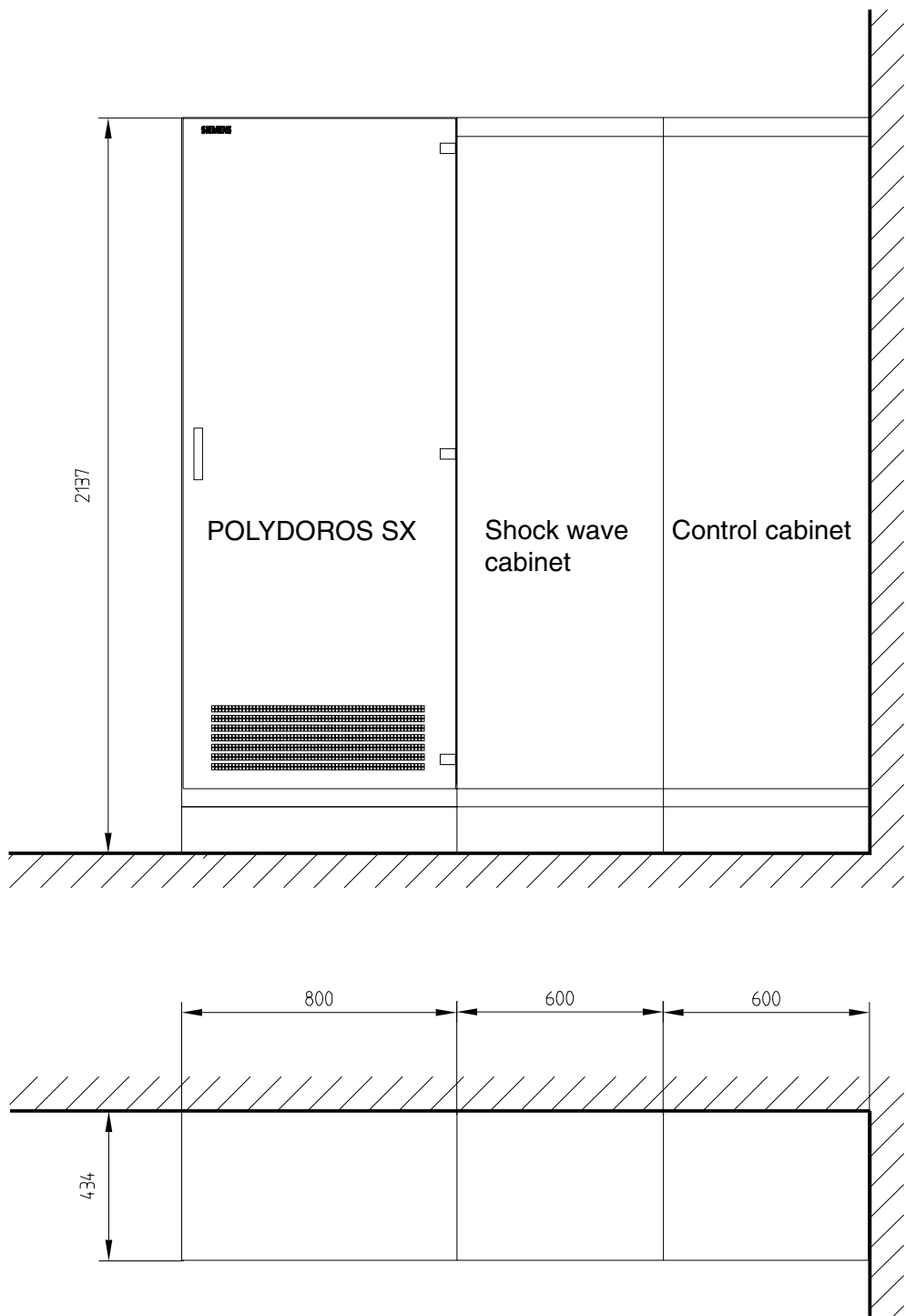


1 : 20

NOTICE

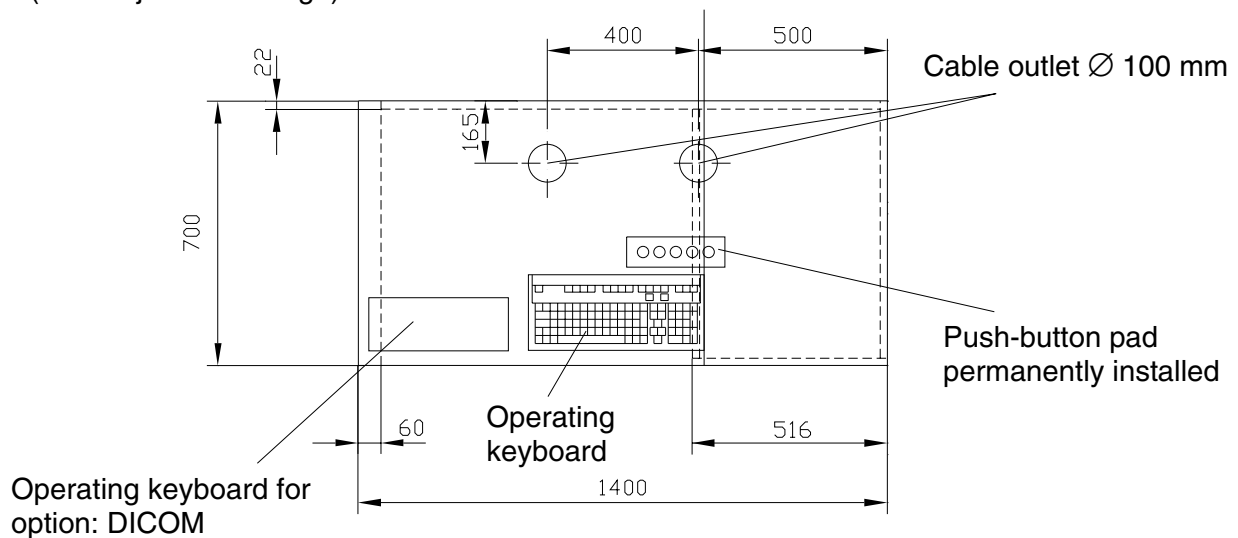
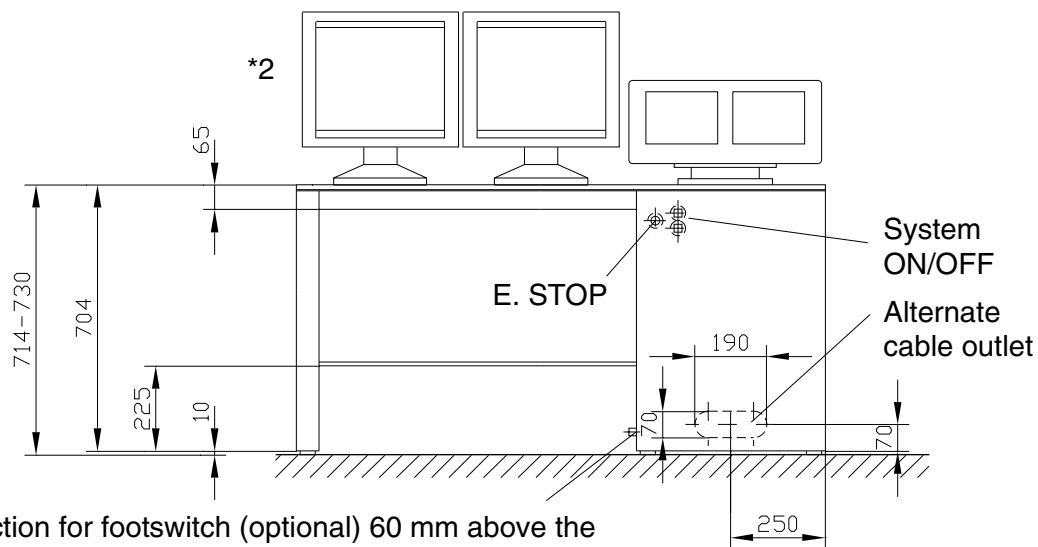
For improved visual effect, the front panels of the cabinets can be aligned with one another.

Dimensions: UMR Cabinets with POLYDOROS SX



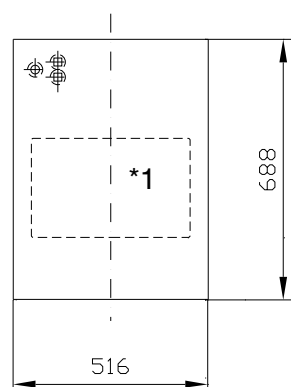
1 : 20

Dimensions: System Operating Console



1 : 20

Door, system control console



Option: MULTISPOT

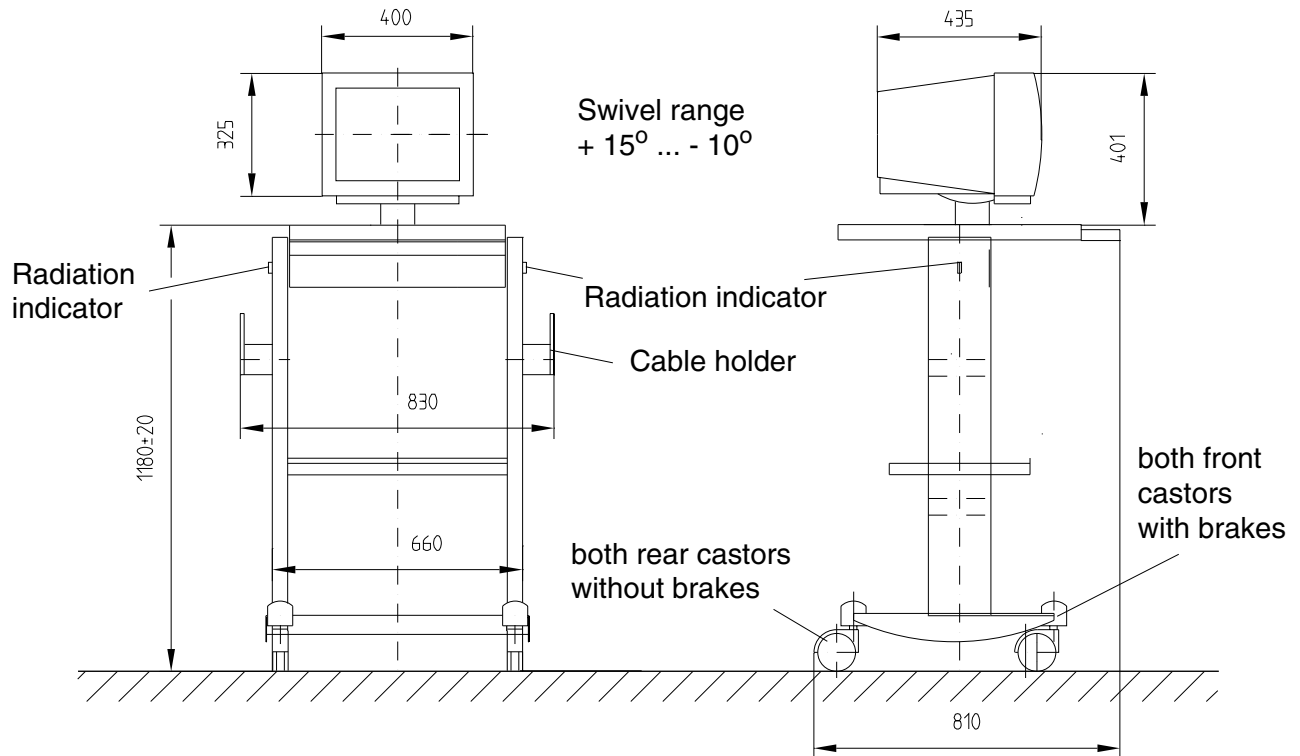
*1 Face plate is removed when installing the MULTISPOT

Option: DICOM

*2 Display only at option DICOM available

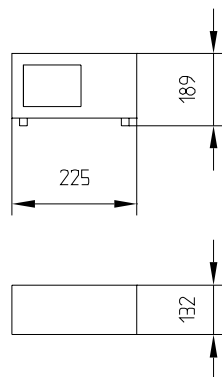
Dimensions: Monitor Trolley, Option

Dimensions of monitor trolley with 44 cm monitor (for Uro Plus equipment, included in delivery)

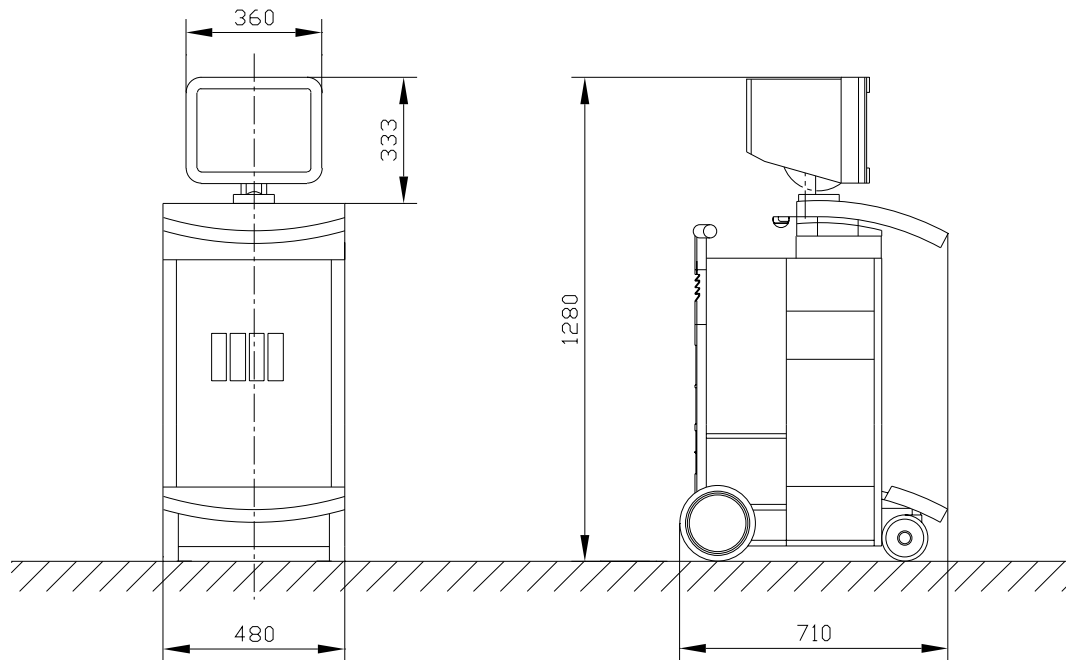


Dimensions: Respiratory ECG Gating, Option

◆ Patients monitor



- ◆ A location for installation of the patients monitor must be provided on-site.
Refer also to the accessory catalog for patient monitoring

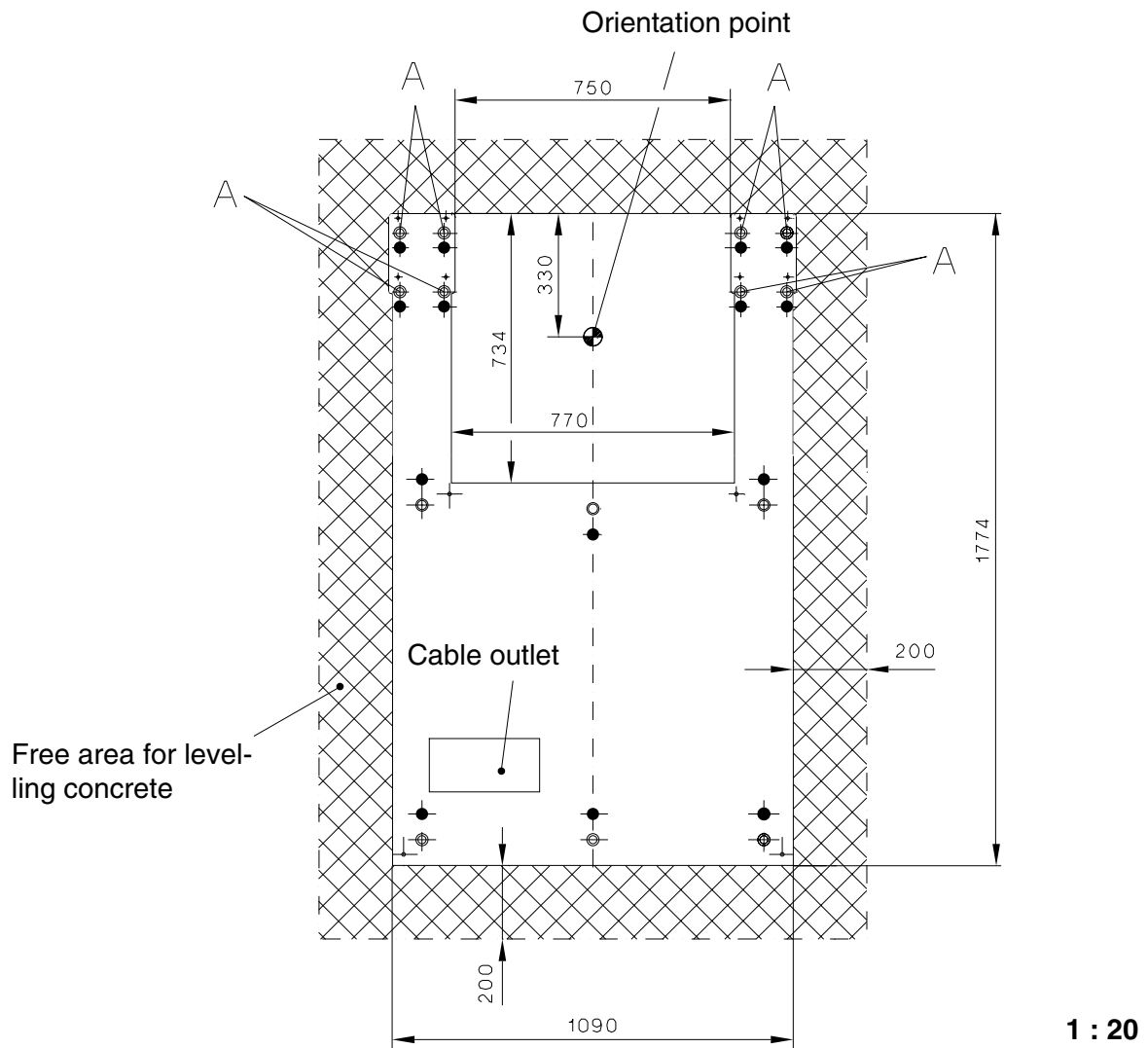
Dimensions: Ultrasound System with Monitor, Option**1 : 20**

The ultrasound option can be disconnected from device B1. A support bracket must be provided on-site for the excess corrugated tubing (6m).

Laser Camera Connection, Option

The optical video separation device between the laser camera and the Memoskop is installed in the control cabinet. The cable from the optical video separation device to the laser camera must not exceed a maximum length of 24 m.

Static Load Prerequisites



The pull forces that occur at the floor mounting points A are max. 1688 N per mounting point.

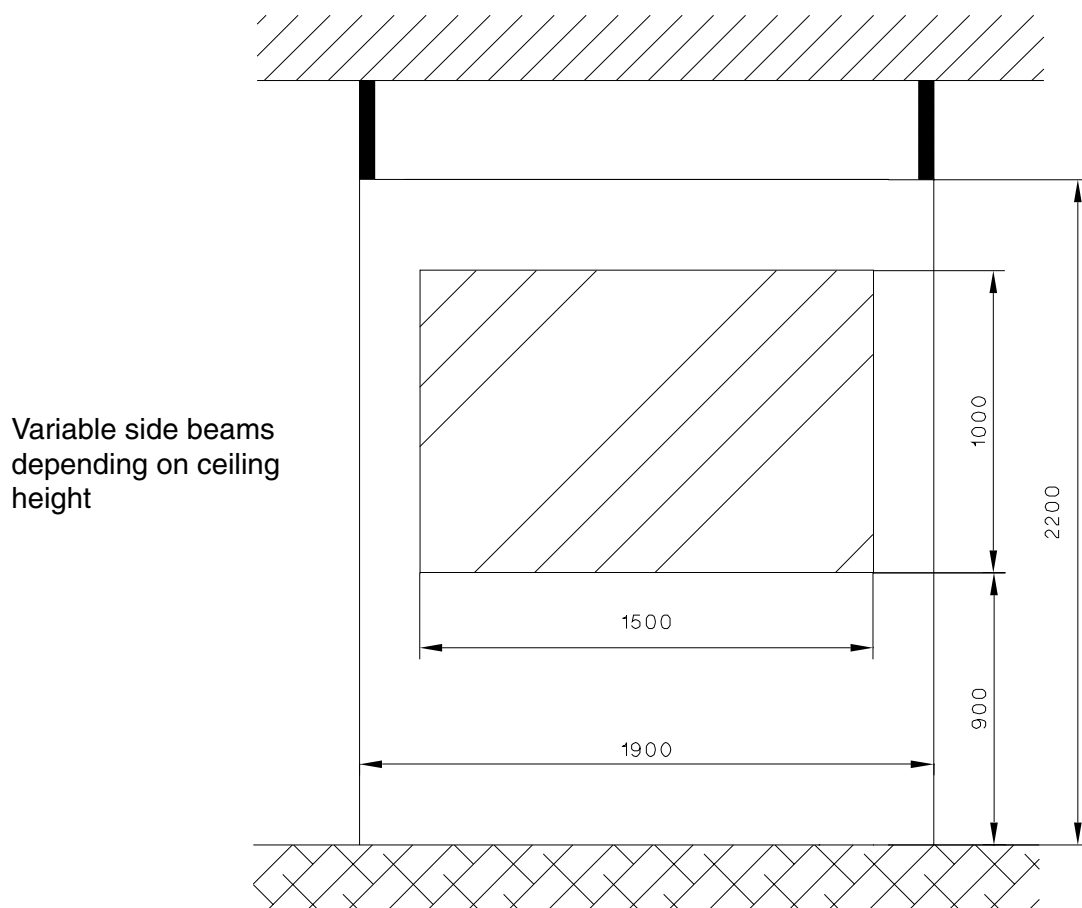
Total weight:

System	approx. 660 kg
Floor plate	approx. 130 kg
Patient	approx. 150 kg
Σ	approx. 940 kg

- = Alternate bore

Suggested Construction for Radiation Protection Shield**NOTICE**

Type Kyowa H 35 = 1.5 Pb at 110 kV can be used for the radiation protection shield.

**1 : 25**

Installation Information

The installation plate must be ordered in advance under item no. 31 27 052 J 1042.

Liebig expansion bolts/anchors, type LSP I 14/80 item no. 70 54 828 F 1107 and corresponding installation material are included in the shipment for the installation. Only the Liebig expansion bolts packed with the unit may be used.

The system must be installed on a solid sub-floor with sufficient load-bearing capacity, such as concrete. If the existing self-leveling grout has sufficient load bearing capacity, the system can be installed directly on the self-leveling grout.

Other types of floors and floor coverings without sufficient load bearing capacity should be removed prior to the installation.

If the system is not being delivered by a third party (contractor, outside of Europe/overseas), the transport roller set (identical to POLYSTAR) item no. 11 53 654 G 5338 must be ordered in advance.

The UMR cabinets must be installed at the same level as the system.

After the installation, the space between the system and the floor must be sealed.
(Refer to installation instructions RXL2-120.031.01...)

NOTICE

**The UMR cabinets should be planned left to right.
Generator - Shock wave cabinet - Control cabinet or
Control cabinet - Shock wave cabinet - Generator**

NOTICE

**The installation plate must be levelled.
Maximum deviation over the longest dimension =1 mm/m
Recommendations from Liebig and the Installation instructions enclosed
for the dowels RXL2-120.038.01 must be strictly observed.**



NOTICE

**With 440/480 V, connect the patients monitor monitor before the building
system transformer.**

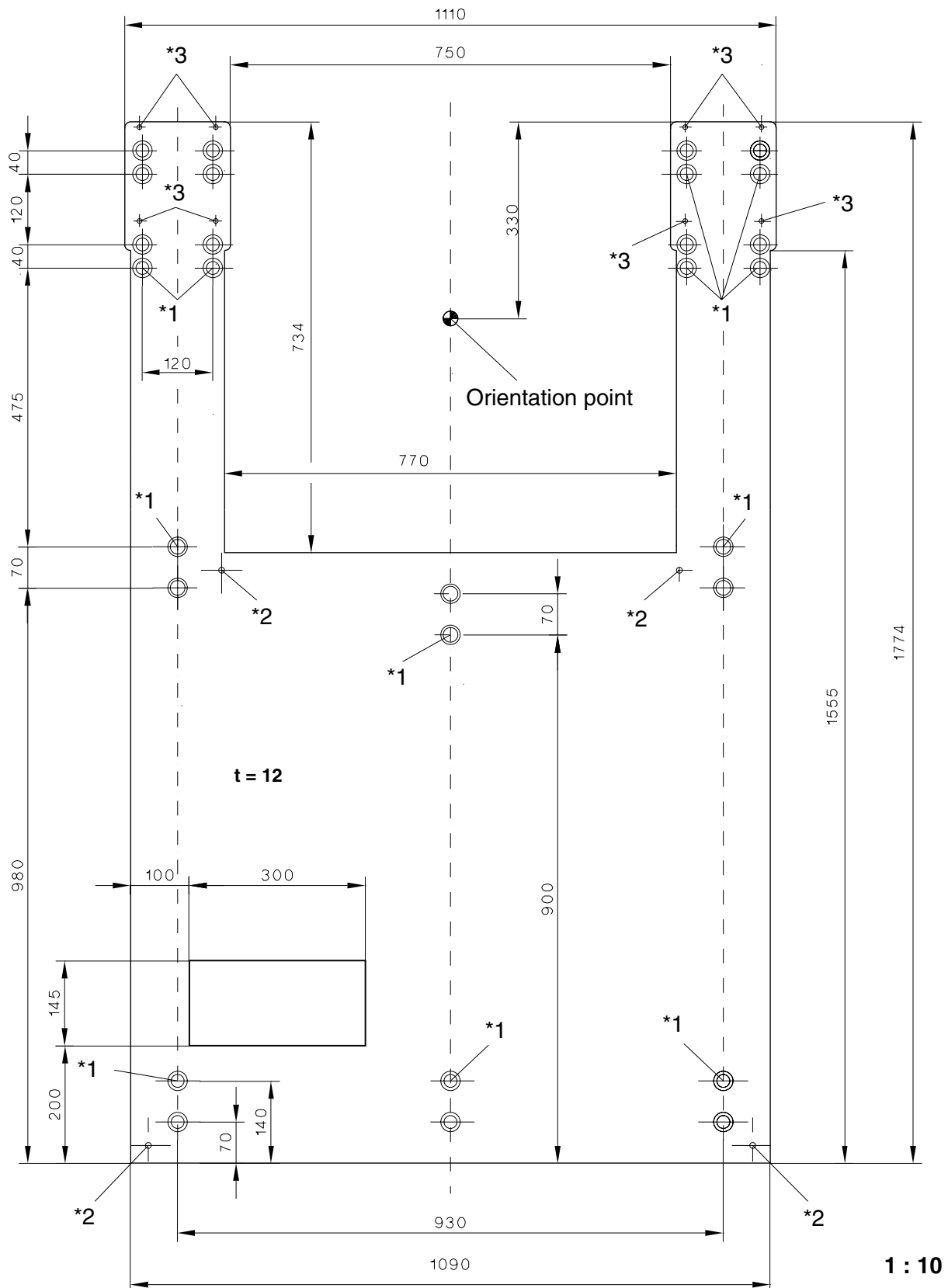
NOTICE

**For information on installing LITHOSTAR Multiline in mobile environments,
refer to PG RXL2-120.021.02.01...**

Option:

1 Water connection kit Item no. 16 12 972 G 5354

Dimensions: Installation Plate



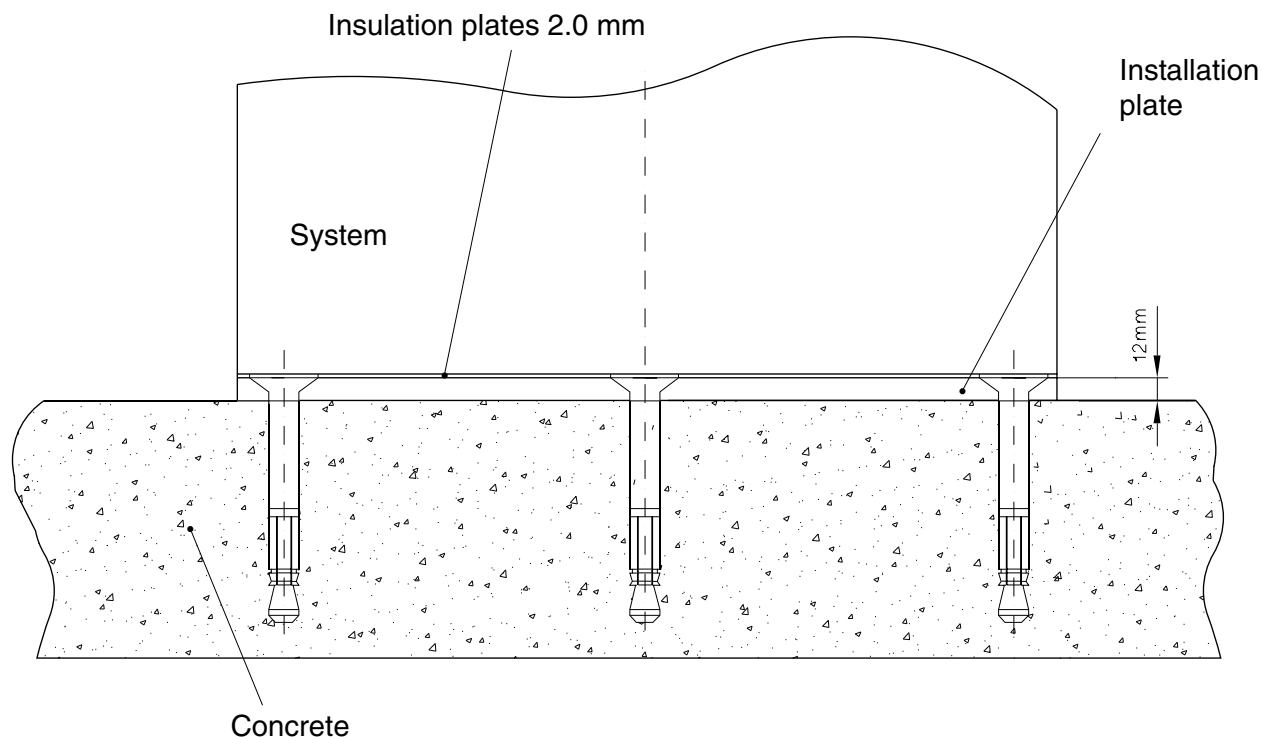
*1 Alternate bore

*2 System base mounting M10

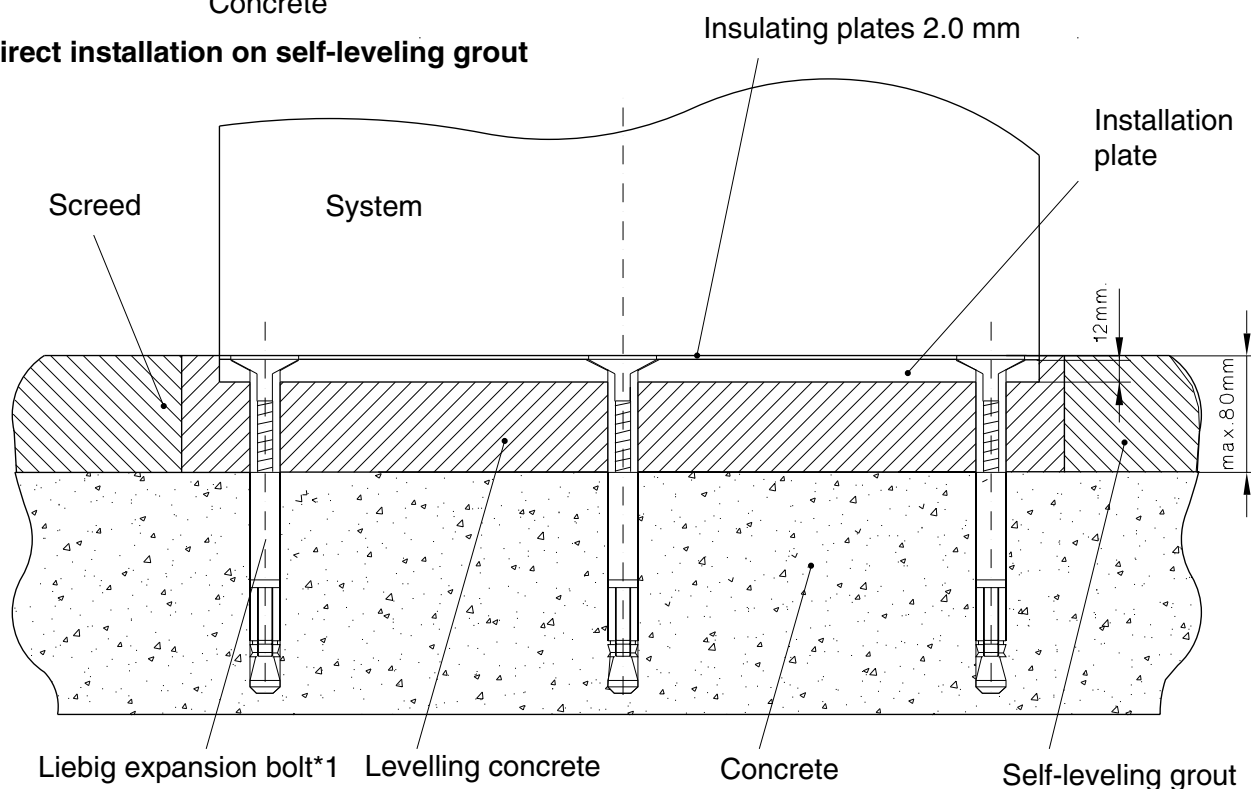
*3 System mounting M8

Installation Plate

Solid concrete

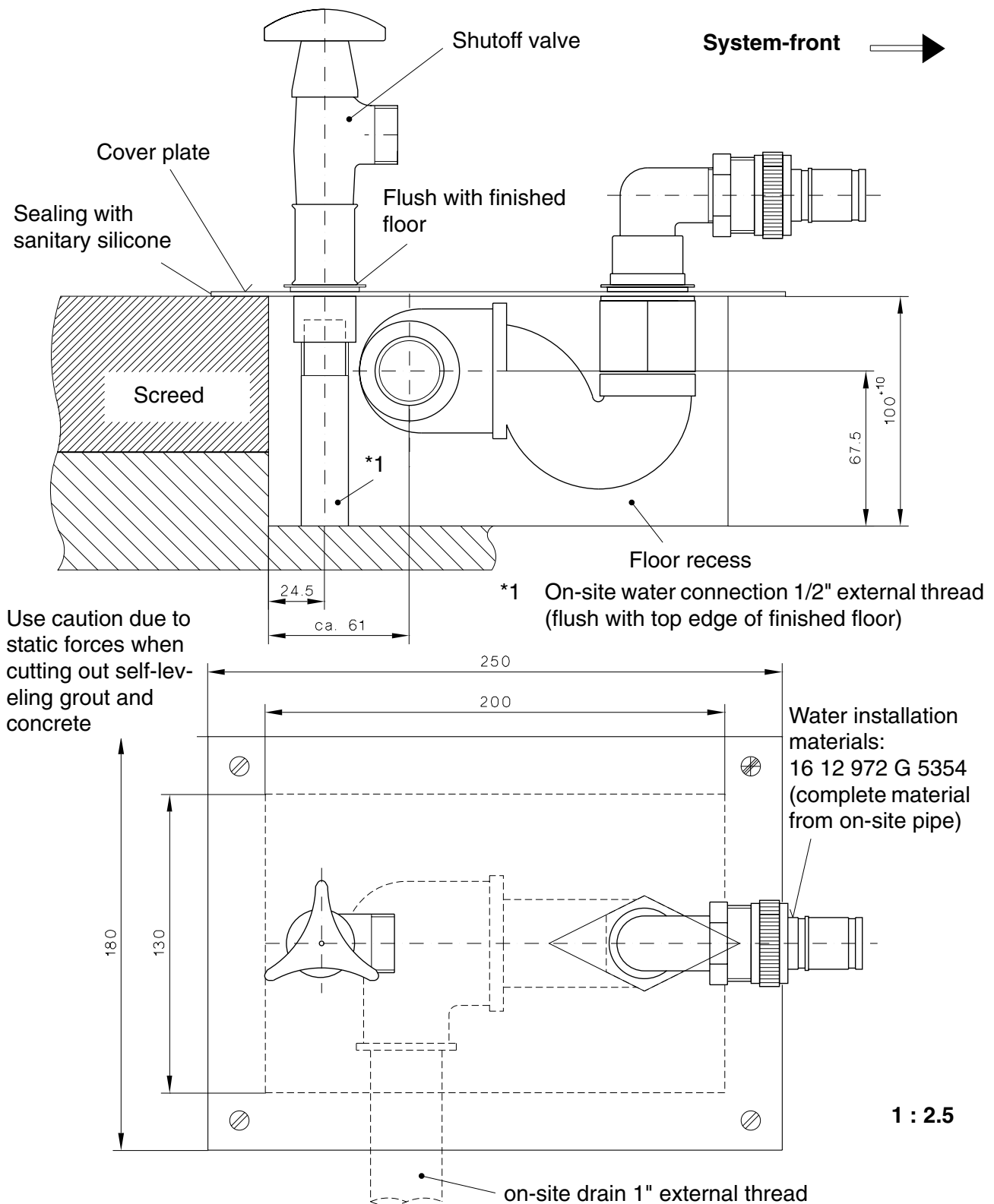


Direct installation on self-leveling grout



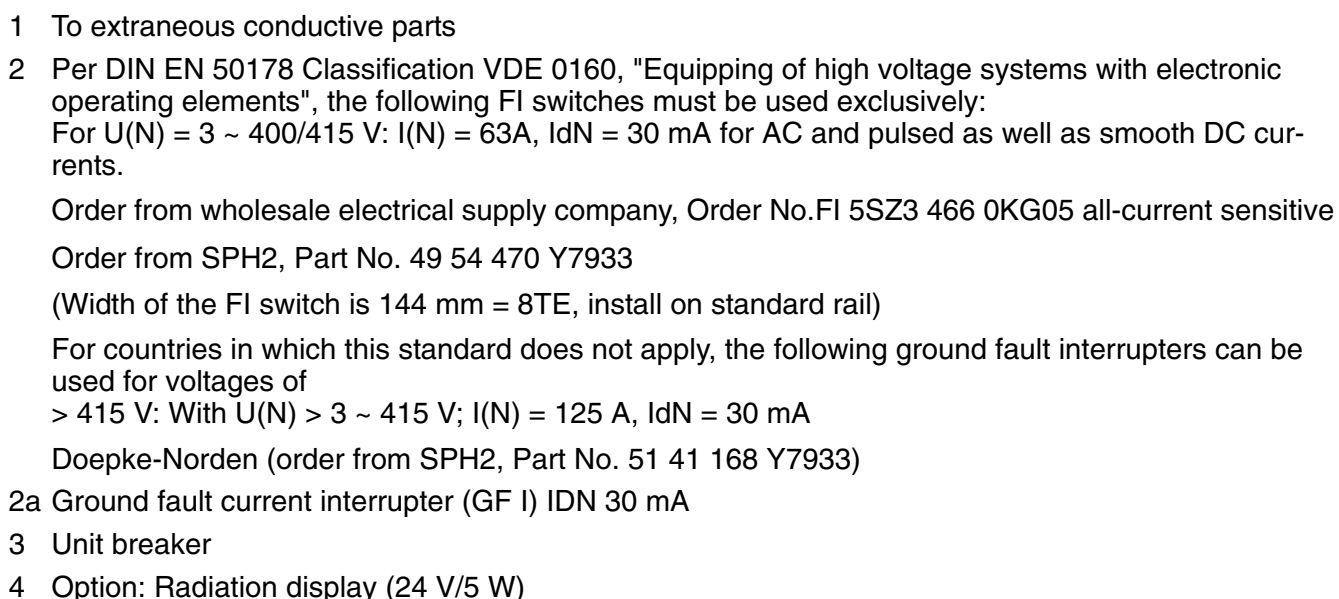
- *1 The instructions from the Liebig company must be observed.
Anchoring in the levelling concrete is not permitted.
Comply with the Installation Instructions RXL2-120.038.01.

Water Installation

**NOTICE**

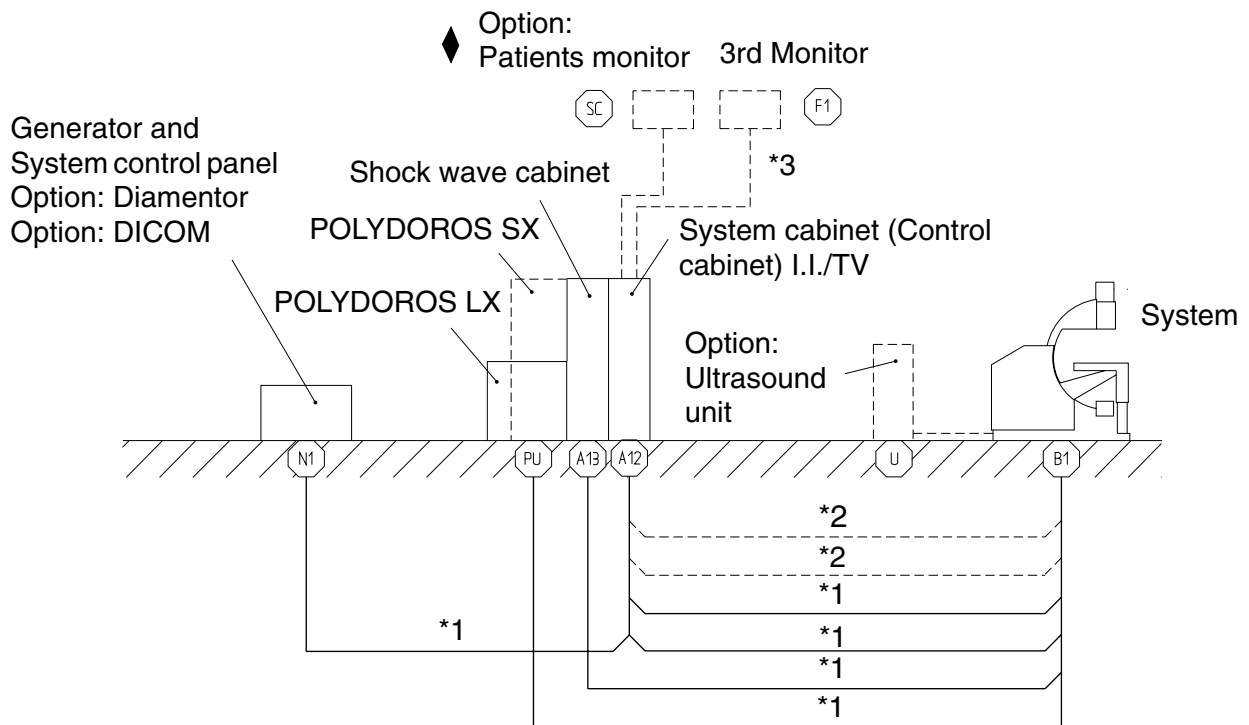
Prevent introduction of foreign substances into the drinking water supply. Observe all national and local laws and regulations.

◆ **Proposal for on-site power distribution per DIN VDE 0100-710 or national regulations**



- 5 Applicable only in countries with line voltage of 115 V, $\pm 10\%$, 50/60 Hz, ± 1 Hz:
If the ultrasound option is configured, at least one power outlet with the specifications 115 V, $\pm 10\%$, 50/60 Hz, ± 1 Hz must be installed on site, in the vicinity of the ultrasound unit. Depending on how the room is set up, additional power outlets must be provided for the various working positions.
- [] Numbers are free lead ends in m

Overview of Connections



Cable duct between the system and cabinets min. W 200 x H 50 mm.

Cable duct between the system control panel and cabinets min. W 50 x H 50 mm.

Tap holes of \varnothing 80 mm must be provided for zipper hoses for ceiling feed-through.

- *1 Zipper hose \varnothing 50 mm
If a conduit is used in place of a cable channel, a conduit with a dia. of at least 100 mm must be provided for each zipper hose.
- *2 The fiber optic cable and video cable are included in the Ultrasound option.
- *3 Cable lengths = 18 m

NOTICE

System cabling

The cable length between the system and each cabinet is 9 m.
The cable length from the control console to the control cabinet is 9 m.
The cable lengths indicated are fixed lengths that cannot be changed. If the cable length required is shorter, storage must be provided for the excess cable length. (Excess cable lengths may not be stored in the cabinets due to EMC).

Options:

- ◆ The cable length for patients monitor is 18 m.

The ultrasound unit can be disconnected from the system at B1. A support bracket must be provided on-site for the remaining corrugated tubing (6m).

The measuring cable for the Diamantor is pulled in from the unit to the system cabinet. If the Diamantor option is configured, lay the measuring cable further to the control console.

Die Option DICOM wird nur innerhalb der Bodenplatte installiert. Es sind keine zusätzlichen Kabel zu verlegen.

Electrical Data

—	Power consumption		
Power connection POLYDOROS LX 50	Fluoroscopy and lithotripsy	Transient power consumption during radiography	Internal fuse
3/N/PE ~ 400 V ± 10% 50/60 Hz ± 1 Hz *1	2.5 kVA	94 kVA	35 A slow-blow
Power connection POLYDOROS SX 65/80			
3/N/PE ~ 400 V ± 10% 50/60 Hz ± 1 Hz *1	2.1/3.3 kVA	120/145 kVA	50 A slow-blow

NOTICE

Rating = line voltage x internal fuse x $\sqrt{3}$ [kVA]

Ri max. = 170 m Ω POLYDOROS LX, Ri max. = 170 m Ω POLYDOROS SX

- *1 If this power supply is not available, an on-site system transformer is required.
Max. Ri at the output terminals ≤ 170 m Ω POLYDOROS LX, ≤ 170 m Ω POLYDOROS SX
(including the line Ri).
(observe UL regulations)

Weights and Heat Dissipation

—	Weight [kg]	Heat dissipation [W]
LITHOSTAR Multiline	—	—
System	approx. 660	approx. 250
Control cabinet	approx. 160	approx. 800
Shock wave cabinet	approx. 240	approx. 600
System control console	approx. 110	approx. 150
Generator cabinet LX	approx. 230	approx. 300
Generator cabinet SX	approx. 290	approx. 900
Monitor and monitor trolley	approx. 100	approx. 90
Ultrasound system	approx. 85	approx. 450
Patients monitor	approx. 5	approx. 55
Physiological monitor	approx. 11	approx. 50

Environmental Conditions

LITHOSTAR Multiline without Ultrasound option	Operating	Transport / Storage
Permissible ambient temperature	+ 10° C ... + 35° C	- 20° C ... + 35° C
Permissible relative humidity	15 % ... 75 %	10 % ... 75 %
Barometric pressure	700 hPa - 1060 hPa	500 hPa - 1060 hPa

LITHOSTAR Multiline with Ultrasound option	Operating	Transport / Storage
Permissible ambient temperature	+ 15° C ... + 35° C	- 10° C ... + 35° C
Permissible relative humidity	30 % ... 75 %	10 % ... 75 %
Barometric pressure	700 hPa - 1060 hPa	500 hPa - 1060 hPa

Packing and Transportation

Largest crate	L 2400 x W 1240 x H 2000 mm
Heaviest individual part	approx. 970 kg with transport frame and palette approx. 840 kg with transport frame, without packaging
minimum door width and door height for transport	min. 1100 mm door width approx. 1800 mm corridor width min. 2000 mm door height

◆ Surface Colors

Main color	Medical White C610
Combination color	Anthracite C614

Additional Data

POLYDOROS LX 50	refer to PG RX63-020.021.01...
POLYDOROS SX 65/80	refer to PG RX63-065.021.01...
Monitor trolleys (optional)	refer to PG RX53-020.021.01...
Installation in mobile environments	refer to PG RXL2-120.021.02...

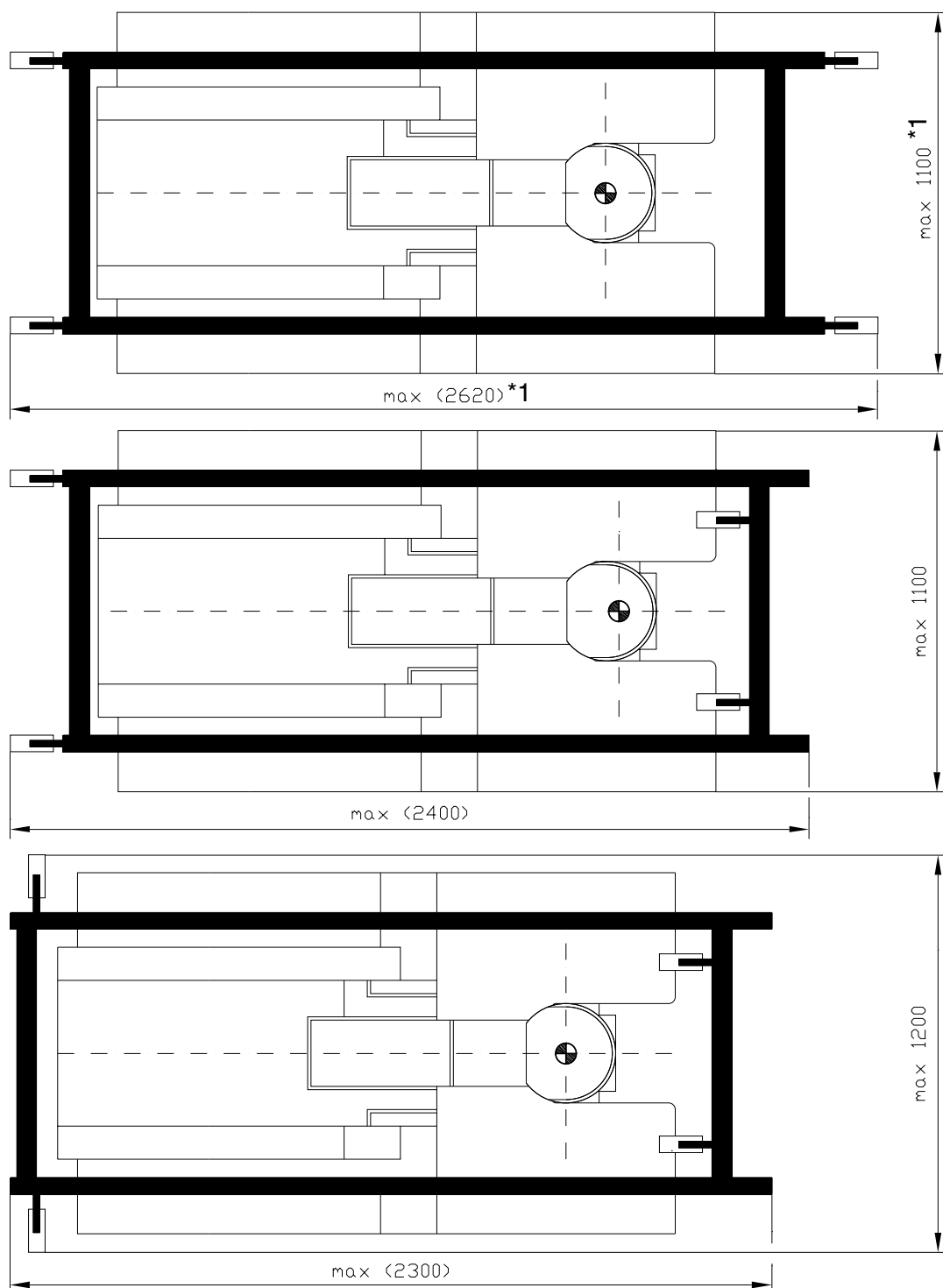
Noise Level

Noise generation during shock wave release at 1 m distance from the patient's head

	Noise level [db (A)]
Energy level 4	≤ 70.4
Energy level 7	≤ 73.3

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Transport Dimensions, Basic System with Transport Frame



*1 Required for removal of the transport pallet

NOTICE

Minimum door width 1100 mm, minimum corridor width approx. 1800 mm, minimum door height 2000 mm.

Transport height without transport rollers: 23 cm I.I. 1860 mm

Transport height without transport rollers: 33 cm I.I. 1989 mm

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Chapter	Page	Change
0 - 7		Rev. level of document changed from 11 to 12.
2	2-7	SIRECUST by patients monitor replaces.
3	3-1	SIRECUST by patients monitor replaces.
3	3-5	Text updated.
4	4-1 and 4-2	SIRECUST by patients monitor replaces.
5	5-1	SIRECUST by patients monitor replaces.
5	5-2	Surface colors updated.
7	7-1	Changes to previous version updated.

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